CLAIMS

(Previously Presented) 1.   A method for capturing an image of memory from multiprocessor-based computer system that has become frozen and copying it to a long term storage device comprising:

triggering an activation of a series of processes for preserving said memory with a triggering action,

copying a first region of low memory,

booting the computer system, and

writing the image of memory outside the first region of low memory to a long term storage volume.

(Original) 2.   The method of claim 1 wherein a modification is made to a BIOS of said computer system that maintains said memory image outside of said first region of low memory in an uncorrupted state through reboot.

(Previously Presented) 3.   The method of claim 1 wherein said action is initiated by an operator detecting that said system is frozen and inserting a boot volume into a boot volume drive, said boot volume containing a BCD program, said operator ensuring that the long term storage device is associated with said system.

(Original) 4.   The method of claim 3 wherein said writing step writes from said outside said first region of low memory to a long term storage.

(Original) 5.   The method of claim 1 w herein the first region of low memory comprises the first four megabytes of storage of main memory of said computer system.

(Original) 6.   The method of claim 5 wherein said first region of low memory further comprises regions wherein structures and procedures have been established for use by an OS running in said computer system.

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(Previously Presented) 7.   The method of claim 6 wherein said first region may include pointers to other files which may be needed by a Consolidator program and wherein said other files which may be needed are located on a boot volume.

(Previously Presented) 8.   The method of claim 1 wherein said copying step depends upon a modification to a BIOS, wherein said modification to said BIOS causes said first region of low memory to be moved to an other memory reserved region upon the boot, before said BIOS affects said first region of low memory.

(Original) 9. The method of claim 8 wherein said modification to said BIOS causing said first region of low memory to be moved to said other memory reserved region upon the boot, before said BIOS affects said first region of low memory is triggered by setting a BIOS Setup option by an operator.

(Original) 10.   The method of claim 8 wherein said modification to said BIOS causing said first region of low memory to be moved to said other memory reserved region upon the boot, before said BIOS affects said first region of low memory is triggered by a Service Processor setting a bit in either a CMOS or configuration data field of said system.

(Original) 11. The method of claim 8 w herein a second boot process loads a BCD program to accomplish said writing step.

(Original) 12. Th e method of claim 1 wherein said activation step is accomplished by a Service Processor associated with said computer system recognizing a failure of said system and wherein said copying of the first region of low memory to a storage device is accomplished using said Service Processor.

(Previously Presented) 13.   The method of claim 1 wherein said copying step depends upon a procedure initiated by a user call to a Service Processor associated with said computer system, wherein said Service Processor procedure causes said first region of low

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memory to be copied to an other memory reserved region upon the boot when a predetermined sequence of instructions is found by said BIOS.

(Original) 14. The method of claim 1 fu rther comprising:
prior to said frozen computer system freezing, preparing a long term storage by reserving a storage area greater than the memory of the frozen computer system.

(Original) 15. The method of claim 14 wherein said preparing is accomplished by a smear program which writes specific data to said storage area greater than the memory of the frozen computer system.

(Original) 16.   The method of claim 14 wherein said preparing prepares a storage area sized based on a worst case scenario for a selected compression scheme.

(Original) 17.   The method of claim 1 wherein said long term storage volume is one recognized by a BIOS of said frozen computer system.

(Previously Presented) 18.   The method of claim 1 wherein said writing step further comprises compressing the data before writing.

(Previously Presented) 19.   The method of claim 1 further comprising: formatting all data in said long term storage having said memory above a first reserved memory area written to it in a manner useable by a predetermined program.

(Original) 20. The method of claim 19 wherein said formatting is accomplished using a consolidator program.

(Previously Presented) 21.   A computer program data product having a computer readable storage medium containing encoded data comprising computer readable program code stored thereon, the computer readable code when executed by a computing system to

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facilitates capture of a the computer system's main memory upon freezing of said computer system, the computer program data product comprising:

a Smear program which when operated configures said computer system to allow it to prepare a long term storage to receive data contents of said computer system's main memory after said computer system is restarted subsequent to said freezing,

a Boot Crash Dump program which when operated configures said computer system to allow it to save the data contents of said main memory to said prepared long term storage, and

a Consolidator program which when operated on a computer having access to said saved data contents to allow it to organize and format said saved data contents appropriately for later access and use by a debugging program.

(Previously Presented) 22.   The computer data product of claim 21 further comprising an OS component or driver which when operated gathers information on said computer system to allow the later analysis of the frozen system memory image.

(Previously Presented) 23.   The computer data product set forth in claim 21 wherein said Boot Crash Dump program contains a compression algorithm for saving said data contents in a compressed format onto a prepared hard disk drive.

(Previously Presented) 24.   The computer data product set forth in claim 21 wherein said Smear program prepares said hard disk drive by writing a reserve region pattern on a long term storage device.

(Previously Presented) 25.   The computer data product set forth in claim 21 wherein said Consolidator program formats and organizes said saved data contents appropriately for OS dump analysis tools.

26.   CANCELED.

27.   CANCELED.

Amendment

                                                       Serial No. 10/647,826
                                                                    30 April 2007

28.   CANCELED.

29.   CANCELED.

30.   (Currently Amended) A system for saving the contents of a block of computer memory from a computer system after said computer system has frozen, the system comprising:

a set of at least one or more processing modules for performing programmable processing tasks defined within a set of processing modules;

the block of computer memory for maintaining the set of at least one or more processing modules and associated data, the block of computer memory having a region of low computer memory and a reserved region of computer memory;

a boot volume corresponding to a long term storage device for maintaining the set of processing modules and associated data, a set of system processing modules and associated data for booting said computer system and launching processing tasks associated with the set of processing modules; and

a facility within a Service Processor of said computer system which operates to save a said region of low computer memory to said reserved region of computer memory upon a trigger signal of an option being specified on the Service Processor when said frozen computer system is restarted with said boot volume.

(Original) 31. The s ystem of claim 30 wherein said option is specified by an operator when said system is found by said operator to be frozen.

(Original) 32. The s ystem of claim 30 wherein said option is specified by an operator previous to said system being frozen and wherein said Service Processor automatically activates said option upon loss of a heartbeat signal from said system, said loss of heartbeat signal indicating to said Service Processor that said system is frozen.

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(Previously Presented) 33.   The system of claim 30 wherein said ~~set of~~ one or more processing modules comprises:

a Smear program which when operated configures said computer system to allow it to prepare long term storage to receive data contents of said computer system's main memory after said computer system is restarted subsequent to said freezing,

a Boot Crash Dump program which when operated configures said computer system to allow it to save the data contents of said main memory to said prepared long term storage, and

a Consolidator program which when operated on a computer having access to said saved data contents to allow it to organize and format said saved data contents appropriately for later access and use by a debugging program.

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